Predeployment motivation and ambivalence among Canadian Forces augmentees: The influence of demographic factors

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Abstract

This research explores one aspect of the predeployment phase of our recent conceptual model of psychological adaptation to peace support operations [1] in more detail, examining the impact of demographic variables on the predeployment motivation and ambivalence (or intrapersonal conflict) levels of Canadian Forces (CF) augmentees to peace support operations. More specifically, we assess the average ambivalence and motivation levels of a sample of Canadian Forces (CF) augmentees undergoing training for an upcoming peace support operation and investigate the relationship between predeployment motivation and ambivalence levels and selected demographic factors of this sample. 698 CF soldiers who were undergoing a predeployment training course at Peace Support Training Centre (PSTC), CFB Kingston, completed the questionnaire that included a series of demographic questions and asked two questions concerning their overall level of motivation and ambivalence concerning their upcoming deployment. Analysis indicated that whether a soldier had volunteered for the mission had the largest impact on these motivational indicators of predeployment readiness, with volunteers having significantly higher levels of motivation to deploy and less ambivalence about the upcoming deployment, relative to soldiers who were tasked. Occupation Group was also related to both motivation toward and ambivalence about the upcoming deployment. These results are considered in terms of the composition of this sample of augmentees and directions for future research in this area are discussed.

Résumé

Cette recherche explore plus à fond un aspect de l'étape prédéploiement de notre récent modèle conceptuel de l'adaptation psychologique aux opérations de soutien de la paix (Thompson et Gignac, 2001), en examinant l'effet de variables démographiques sur les degrés de motivation et d'ambivalence (ou de conflit intérieur) prédéploiement des renforts des Forces canadiennes (FC) affectés à des opérations de soutien de la paix. Nous évaluons plus précisément les degrés moyens d'ambivalence et de motivation d'un échantillon de renforts des Forces canadiennes (FC) recevant un entraînement en vue d'une prochaine opération de soutien de la paix et nous examinons la relation entre les degrés de motivation et d'ambivalence prédéploiement et certains facteurs démographiques choisis. Les 698 soldats des FC qui recevaient une formation prédéploiement au Centre de formation pour le soutien de la paix (CFSP), BFC Kingston, ont rempli le questionnaire, qui comportait une série de questions démographiques et ils ont répondu à deux questions concernant leur degré global de motivation et d'ambivalence à l'égard du déploiement à venir. L'analyse a révélé que le statut de volontaire/désigné était le facteur qui avait l'effet le plus marqué sur les indicateurs motivationnels de l'état de préparation prédéploiement, les volontaires manifestant des degrés de motivation beaucoup plus élevés et des degrés d'ambivalence moindres face au futur déploiement que les soldats désignés pour cette mission. Le groupe professionnel était également lié à la motivation et à l'ambivalence face au déploiement. Dans cette recherche, on examine les résultats par rapport à la composition de cet échantillon de renforts et l'on traite de l'orientation que pourraient prendre les futures recherches dans ce domaine.

Executive summary

In the present paper we explore one aspect of the predeployment phase of our recent conceptual model of psychological adaptation to peace support operations [1] in more detail, examining the impact of demographic variables on the predeployment motivation and ambivalence (or intrapersonal conflict) levels of Canadian Forces (CF) augmentees to peace support operations. More specifically, we ask two questions:

1. What are the average ambivalence and motivation levels of a sample of Canadian Forces (CF) augmentees undergoing training for an upcoming peace support operation?

2. Are the predeployment motivation and ambivalence levels of this group of CF augmentees affected by demographic factors such as their previous peacekeeping tours, their rank, military occupation, gender, etc.?

Motivation refers to level enthusiasm for a goal, and willingness to pursue a goal. Linked to individuals' attitudes and behavior, motivation is considered to be one of the central constructs in psychology. Within a military context, soldier motivation levels have been shown to predict performance in a variety of settings, ranging from attrition from basic training to Special Forces selection. Level of motivation to serve in the military at time of enlistment, has also been shown to a key predictor of subsequent PTSD diagnosis.

While motivational attitudes might be considered to be relatively straightforward in that they are conceptualized as unidimensional (e.g., positive or negative), ambivalence about a topic or event reflects a more complex attitude. Ambivalent attitudes occur when a person feels both positively and negatively, that is conflicted, about something and is typically a negative emotional experience. Ambivalent attitudes are important to assess, as past studies using civilian samples have shown that they can lead to hesitation and inconsistent behaviors in a variety of important life decisions. To date, there have been no empirical studies exploring the effects of ambivalent attitudes in a military context. However, Pigeau and McCann [2] have suggested that intrapersonal conflict is exceedingly important in military contexts: "Great commanders, we believe, realize that person-versus-self conflict is the single biggest factor in determining a military mission's success or failure. Equipment is useless without personnel who believe in the cause and are motivated to achieve the goals that will further it (p. 3)."

Procedure: 698 CF soldiers who were undergoing a predeployment training course at Peace Support Training Centre (PSTC), CFB Kingston, completed the questionnaire that included a series of demographic questions and asked two questions concerning their overall level of motivation and ambivalence concerning their upcoming deployment.

Results: Analysis indicated that whether a soldier had *volunteered* for the mission had the largest impact on these motivational indicators of predeployment readiness, with volunteers having significantly higher levels of motivation to deploy and less ambivalence about the upcoming deployment, relative to soldiers who were tasked. *Occupation Group* was also related to both motivation toward and ambivalence about the upcoming deployment. More specifically, the motivation levels of personnel in computer and communications – related

occupations were the highest of the occupational groups assessed here. Individuals in medically-related occupations reported less motivation than did most other occupational groups. Similarly, soldiers in the computer/communication occupations reported significantly less ambivalence than engineers or other technical support staff, or by clerical, and medical personnel. Moreover, soldiers serving in the *support occupations* reported significantly greater motivation for the deployment than did soldiers serving in front-line occupations; however, the groups did not differ in terms of ambivalence levels. Soldier *rank* had no effect on the motivation levels of our respondents. It did, however produce a marginally significant effect on ambivalence in that Junior Officers reported somewhat less ambivalence about their upcoming mission than did Junior Non-Commissioned Members (NCMs), Senior NCMs or Senior Officers. Interestingly, *number of previous deployments* and *operational tempo* as assessed by deployment load (number of tours/years of service) were not related to the motivation or ambivalence levels of soldiers in this sample. Finally, *years of service, gender and marital status* were also unrelated to soldier reports of predeployment motivation or ambivalence.

Discussion: The very high level of motivation reported by these soldiers (4.25/5!) is perhaps not too surprising as the results presented here are based upon a largely volunteer group. In spite of these high levels of motivation, it is also important to note that there also existed a moderate level of ambivalence, or mixed feelings concerning the upcoming deployment for some individuals here. Moreover, the correlation between ambivalence and motivation was only moderate, suggesting that the structure of deployment attitudes is complex. Thus, some soldiers are highly motivated but may nonetheless possess mixed feelings about the upcoming deployment.

Whether soldiers had volunteered versus been tasked for the mission and military occupation group had the largest impact on the ambivalence and motivation levels of these soldiers. One explanation of this finding might be that certain occupational groups are tasked to deploy more often and so are more vulnerable to burnout that may contribute to, or underlie lower motivation and higher ambivalence scores. Recall, however, that numbers of previous peace support tours, operational tempo were unrelated to either motivation or ambivalence. Thus, the military occupation-motivation relation is no doubt complex in nature and there may be other factors inherent in the occupation itself that contribute to these findings. Age, years of service, gender and marital status were not related to either motivation or ambivalence.

Although preliminary, the results of this study are encouraging in several ways. First, the results are quite positive from an operational standpoint as they reveal a high level of motivation and relatively low level of ambivalence about upcoming deployment, speaking to the predeployment readiness of this sample. Second, these results suggest that the exploration of soldier motivation and ambivalence is a fruitful area of study. More specifically, our results suggest that soldier motivation and ambivalence can be assessed via self-report measures. These results are perhaps especially encouraging because the predeployment inclearance proforma questionnaire was not designed to tap psychological factors. As a result we limited the motivation and ambivalence questions to one item each. Similarly, PSTC's predeployment Inclearance Proforma questionnaire was neither anonymous nor confidential in nature. Nonetheless a range of levels of motivation and ambivalence were reported, and were related in predicted ways to several demographic variables assessed.

Subsequent research should replicate these results with formed units or brigades who are deploying to a peace support mission, as these soldiers are tasked, and would conceivably report a greater range of motivation and ambivalence scores. Thus, we may see even greater links between motivation, ambivalence and demographic variables than was the case here. Future research should also seek to better understand the range of factors, beyond the demographic variables assessed here, which may act as antecedents to motivation and ambivalence. Finally, future research should also concern itself with the exact nature of the relation of self-reports of these sorts of predeployment motivation and ambivalence levels to the experience of stress, adaptation, and operational effectiveness outcomes among peacekeepers at different stages of deployment cycle. Of course, the first step in any of these research initiatives would be to quantify baseline measures of ambivalence and motivation – much as we have established here.

Thompson, M.M. & Gignac, M.A.M. 2003. Pre-deployment motivation and ambivalence among Canadian Forces Augumentees: The influence of demographic factors. DRDC Toronto TR 2003-144. Defence R&D Canada – Toronto.

Sommaire

Dans le présent document, nous explorons plus en détail un aspect de l'étape prédéploiement de notre récent modèle conceptuel de l'adaptation psychologique aux opérations de soutien de la paix (Thompson et Gignac, 2001), en examinant l'impact de variables démographiques sur les degrés de motivation et d'ambivalence (ou de conflit intérieur) prédéploiement de renforts des Forces canadiennes (FC) affectés à des opérations de soutien de la paix. Nous posons en fait deux questions :

1. Quel est le degré d'ambivalence et de motivation moyen d'un échantillon de renforts des Forces canadiennes (FC) recevant un entraînement en vue d'une prochaine opération de soutien de la paix?

2. Les degrés de motivation et d'ambivalence de ces renforts des FC avant le déploiement sont-ils influencés par des facteurs démographiques tels que leur participation préalable à des opérations de maintien de la paix, leur grade, leur groupe professionnel militaire, leur sexe, etc.?

La motivation désigne le degré d'enthousiasme face à un but et la volonté d'atteindre ce but. Elle est liée aux attitudes et au comportement d'une personne et est considérée comme l'un des concepts centraux de la psychologie. Dans le domaine militaire, il a été démontré que les degrés de motivation des soldats permettent de prédire leur rendement dans différents contextes, depuis l'abandon de l'entraînement de base jusqu'à la sélection pour une force spéciale. Le degré de motivation à servir dans l'armée au moment de l'enrôlement s'est avéré un prédicteur clé d'un éventuel diagnostic d'état de stress post-traumatique.

Les attitudes associées à la motivation peuvent être considérées comme relativement simples, c.-à-d. unidimensionnelles (soit positives ou négatives), mais l'ambivalence à l'égard d'une question ou d'un événement reflète pour sa part une attitude plus complexe. Il y a ambivalence lorsqu'une personne éprouve des sentiments à la fois positifs et négatifs, c.-à-d. conflictuels, à l'égard de quelque chose, et cette expérience s'avère habituellement négative sur le plan émotionnel. Il importe d'évaluer les attitudes ambivalentes, étant donné que des études passées portant sur des échantillons de civils ont révélé qu'elles peuvent créer de l'hésitation et un manque de logique dans la prise de décisions importantes de la vie. À ce jour, aucune étude empirique n'a examiné les effets de l'ambivalence dans le contexte militaire. Pigeau et McCann (2000) ont cependant laissé entendre que les conflits intérieurs sont excessivement importants dans le contexte militaire : « Selon nous, les grands commandants sont conscients du fait que le conflit intérieur constitue le facteur primordial à considérer dans la détermination du succès ou de l'échec d'une mission militaire. Le matériel est inutile si le personnel ne croit pas au bien-fondé de la cause et n'est pas motivé à atteindre les buts qui permettront de promouvoir cette cause. » (p. 3)

Méthode : 698 soldats des FC qui recevaient un entraînement prédéploiement au Centre de formation pour le soutien de la paix (CFSP), BFC Kingston, ont rempli un questionnaire incluant une série de questions d'ordre démographique et ils ont répondu à deux questions

concernant leur degré global de motivation et d'ambivalence à l'égard de leur prochain déploiement.

Résultats : L'analyse a révélé que la nature de la participation du soldat - *volontaire ou désigné* – à la mission était le facteur qui avait l'effet le plus marqué sur les indicateurs motivationnels de l'état de préparation prédéploiement, les volontaires présentant des degrés beaucoup plus élevés de motivation et une ambivalence moindre face au déploiement que les soldats désignés. Le *groupe professionnel* était également lié à la fois à la motivation et à l'ambivalence. En effet, le degré de motivation du personnel exerçant des professions liées à l'informatique et aux communication était plus élevé que celui de tous les autres groupes professionnels étudiés. Les personnes exerçant des professions liées à la médecine manifestaient moins de motivation que celles de la plupart des autres groupes professionnels. De même, les soldats des professions liées à l'informatique et aux communications étaient beaucoup moins ambivalents que les ingénieurs ou autres personnes du soutien technique, ou que les commis et personnes des professions médicales. De plus, les soldats exerçant des *professions de soutien* étaient beaucoup plus motivés face au déploiement que les soldats exerçant des professions de première ligne; cependant, le degré d'ambivalence des deux groupes était le même. Le *grade* n'avait aucun effet sur le degré de motivation des répondants. Il avait cependant un effet marginalement important sur l'ambivalence, en ce sens que les officiers subalternes se montraient un peu moins ambivalents face à leur mission prochaine que les militaires du rang subalternes (MR sub), les militaires du rang supérieurs (MR sup) ou les officiers supérieurs. Fait intéressant, le *nombre de déploiements antérieurs* et le *rythme opérationnel*, déterminés par la charge de déploiements (nombre d'affectations/années de service), étaient sans rapport avec le degré de motivation ou d'ambivalence des soldats de cet échantillon. Enfin, les *années de service*, le *sexe* et l'*état matrimonial* étaient également sans rapport avec le degré de motivation ou d'ambivalence prédéploiement que les soldats ont déclaré.

ANALYSE : Le degré de motivation très élevé signalé par ces soldats (4,25/5!) n'est peut-être pas très étonnant, étant donné que les résultats présentés ici se rapportent à un groupe surtout composé de volontaires. Mais parallèlement à ces degrés élevés de motivation, il y avait également un degré modéré d'ambivalence ou des sentiments mitigés à l'égard du déploiement chez certaines personnes. De plus, la corrélation entre l'ambivalence et la motivation n'était que modérée, ce qui laisse supposer que la structure des attitudes face au déploiement est complexe. Ainsi, certains soldats sont hautement motivés, mais peuvent néanmoins avoir des sentiments partagés face au déploiement prochain.

Le statut de volontaire/désigné des soldats et leur groupe professionnel militaire étaient les facteurs qui avaient l'effet le plus marqué sur les degrés d'ambivalence et de motivation. Cette observation pourrait s'expliquer entre autres par le fait que certains groupes professionnels sont désignés plus souvent pour des déploiements et sont donc plus vulnérables à un épuisement (burnout) susceptible favoriser ou de sous-tendre une motivation moindre et une ambivalence supérieure. Il faut cependant se rappeler que le nombre de missions de soutien de la paix antérieures et le rythme opérationnel étaient sans rapport avec la motivation ou l'ambivalence. Ainsi, le rapport profession militaire/motivation est sans doute complexe et il pourrait y avoir d'autres facteurs inhérents à la profession elle-même qui contribuent à cet état de fait. L'âge, les années de service, le sexe et l'état matrimonial n'avaient de rapport ni avec la motivation ni avec l'ambivalence.

Bien que les résultats de cette étude soient préliminaires, ils sont encourageants à différents égards. Premièrement, ils sont assez positifs au plan opérationnel, étant donné qu'ils confirment un degré élevé de motivation et un degré assez faible d'ambivalence à l'égard d'un déploiement futur, ce qui est révélateur de l'état de préparation de cet échantillon pour le déploiement. Deuxièmement, ces résultats révèlent que l'exploration de la motivation et de l'ambivalence des soldats est un sujet d'étude fertile. Nos résultats laissent plus précisément supposer que la motivation et l'ambivalence des soldats peuvent être évaluées par voie d'autodéclaration. Ils sont tout particulièrement encourageants si l'on tient compte du fait que le questionnaire pro forma inclus dans les formalités d'arrivée n'a pas été conçu pour examiner des facteurs psychologiques. De ce fait, nous nous sommes limités à deux questions, une concernant la motivation et une concernant l'ambivalence. De même, le questionnaire pro forma du CFSP n'était ni anonyme ni confidentiel. Une gamme de degrés de motivation et d'ambivalence a néanmoins été déclarée et a pu être associée de manières prévisibles à plusieurs variables démographiques évaluées.

Des recherches subséquentes devraient reproduire ces résultats avec des unités ou brigades structurées appelées à être déployées dans le cadre d'une mission de soutien de la paix, étant donné que les soldats y seraient désignés et qu'ils signaleraient vraisemblablement une gamme plus vaste de degrés de motivation et d'ambivalence. Ainsi, on pourrait observer des liens encore plus étroits entre la motivation, l'ambivalence et les variables démographiques qu'on ne l'a fait dans le cadre de cette étude. Les recherches futures devraient également viser à recueillir plus d'information sur la gamme de facteurs, outre les variables démographiques évaluées ici, qui peuvent être précurseurs de la motivation et de l'ambivalence. Enfin, les recherches futures devraient également se pencher sur la nature exacte de la relation entre les autodéclarations de ce type, portant sur les degrés de motivation et d'ambivalence prédéploiement, et les expériences de stress, d'adaptation et d'efficacité opérationnelle parmi les gardiens de la paix à différentes étapes du cycle de déploiement. La première étape de toutes ces éventuelles recherches devrait évidemment consister à quantifier les données de base sur l'ambivalence et la motivation, un peu comme nous l'avons préconisé ici.

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Introduction

Personal accounts of recent peace support operations and the emerging deployment stress literature provide ample evidence that these missions are extremely challenging, involving complex stressors [3,4,5,6,7]. Some of these stressors are acute such as exposure to traumatic, combat-intensity events and include coming under direct or indirect attack from belligerents, witnessing the injury or death of military personnel and the large-scale massacre of civilians, and handling wounded or dead bodies [8,9,10,11,12,13].

Beyond acute stressors, a number of chronic stressors, even some that are of low intensity, are often a feature of modern peace support operations. Complex interpersonal relationships with citizens of occupied countries, members of multinational peacekeeping forces, co-workers, and family who are left behind, as well as significant periods of boredom, a lack of privacy, and few opportunities for rest and relaxation are among these chronic stressors. Personnel are often asked to undertake operations with confusing or inadequate or changing rules of engagement. Peace support duty, therefore, engenders extremely high demands, leaving deployed military personnel vulnerable to "feelings of helplessness and powerlessness" [14, p. 587; 15,16].

These stressors, in turn, are hypothesized to impact on the operational effectiveness of individuals who serve on peace support missions. Speaking this issue, McCann & Pigeau [2] proposed that these human dimensions of operations, although largely overlooked in the past, are increasingly the most significant factor in determining the success or failure of a military operation. Indeed, the impact of psychological variables, both at the individual and the group level increasingly are becoming integrated into models of operational readiness and effectiveness [e.g.,17,18].

We make similar assertions in our recent conceptual model of adaptation to peace support operations [1]. Our model takes a developmental approach to studying psychological adaptation to military deployments. It begins in the predeployment phase, suggesting that a variety of individual, social and organizational level factors will influence important motivational factors that may facilitate or impede individuals' adaptation. In the present paper we explore this issue in more detail, examining the impact of demographic variables on the predeployment motivation and ambivalence or conflict levels of Canadian Forces (CF) personnel.

Motivation and ambivalence

It is beyond the scope of this paper to review the extant literature on motivation and ambivalence. Suffice it to say motivation refers to level enthusiasm for a goal, and willingness to pursue a goal, and is considered to be one of the central constructs in psychology [19] linked to key aspects of emotion and behavior. Motivation may also be thought of as a positive of negative attitude concerning enthusiasm for a task. That is, one's level of motivation for a task runs along a continuum of positivity to negativity.

Motivation has been investigated and implicated in military psychology. Soldier motivation levels have been shown to predict military performance in a variety of settings [20, 21, 22, 23), including attrition from basic training [24] and Special Forces selection [25]. Level of motivation to serve in the military at time of enlistment, has also been shown to a key predictor of subsequent PTSD diagnosis, among a group of Israeli soldiers. Indeed, level of motivation to serve at the time of enlistment was found to be the greatest predictor of later PTSD diagnoses, even after accounting for the effects of intelligence, education and social functioning [26]. Similarly, a high level of job-related motivation served to buffer the effects of high stress resulting from family and work [27]. Findings such as these have contributed to calls for a better understanding of human behavior including motivation to inform defence management strategy and doctrine [28, 2].

While motivational attitudes are relatively straightforward in that they are conceptualized as unidimensional (e.g., positive or negative), ambivalence about a topic or event reflects a more complex attitude. Ambivalent attitudes occur when a person feels **both** positively and negatively about something and is typically a negative emotional experience [29, 30]. Ambivalent attitudes are important to assess, as past studies have shown that they can lead to hesitation and inconsistent behaviors in a variety of important life decisions [e.g., 31, 32, 33, 34, 35] Indeed, ambivalence may have exceedingly important implications in military contexts. As Pigeau & McCann [2] astutely note:

> Person-versus-self conflicts cause … [other forms of] human conflict [e.g. person-person conflict] – as important as they seem – to pale in comparison. Humans appear unique among animals in spending significant amounts of time engaged in self-reflection … allowing each of us to speculate on our wants, our desires, our strengths, our weaknesses. When these … become inconsistent with self-perception … conflicts ensue. Great commanders, we believe, realize that person-versus-self conflict is the single biggest factor in determining a military mission's success or failure. Equipment is useless without personnel who believe in the cause and are motivated to achieve the goals that will further it (p. 3).

To date their have been no empirical studies exploring the effects of ambivalent attitudes in a military context. However, in the context of an upcoming peacekeeping deployment, it may well be that some soldiers look forward to a peacekeeping deployment because of the new work challenges it represents, because of the opportunity to assist people in a country devastated by war, or for monetary incentives. On the other hand, this same soldier may feel quite unhappy about leaving his or her family for six months. Applying the general psychological literature on ambivalence suggests that soldiers who are ambivalent about their upcoming deployment may well be more emotionally reactive to the events that occur on a tour.

Demographic factors

Findings from within the deployment stress literature have begun documenting the effects of various demographic variables upon adaptation to the stressors associated modern military life, including peace support operations. For instance, Adler, Vaitkus, and Martin [8] reported

that junior non-commissioned U.S. army personnel were more likely to report PTSD symptoms as compared to senior non-commissioned personnel and officers [see also 36,37]. Other research showed similar effects of rank on predeployment arousal and stress levels [38]. Finally, soldiers of more senior ranks reported greater amount of maturation as a result of Army service [39].

Gender, too, has been related to important outcomes in military samples. Some studies show that female soldiers report higher levels of physical and psychological symptoms in many studies [e.g., 36]. Female soldiers in combat units also reported self-imposed pressure to achieve higher levels of performance than their male comrades [c.i. 40]. One study revealed that self-reports of burnout were associated with different organizational factors for male and female military personnel. In addition, the female soldiers were responsive to the quality of peer support available while males tended to respond to variations in their relationship with their supervisor, in response to work stress [40, 41].

The roles of other key demographic aspects of military life remain to be explored, including military occupation, number of previous deployments and years of service. For instance, military occupations vary extensively in the likelihood of exposure to trauma, as well as frequency of deployment. Soldiers in the combat arms, combat engineers, and medical personnel are at greatest risk of exposure to trauma, while personnel serving in support occupations may not leave the camp and be less likely to be directly exposed to trauma. The role of military occupation may not be so clear-cut however. Hotopf et al. [36] found that serving in staff roles was a significant predictor of psychological distress for British soldiers who served in the Gulf War and for soldiers who served in Bosnia on peacekeeping missions.

Recent world conflicts have meant that there is an increasing mandate for the armies of established nations to be involved in the policing of emerging nation states [42]. This trend, coupled with downsizing of many militaries, has meant an increasing deployment rate for many soldiers. Not surprisingly, the impact of number of deployments on the health, well-being and operational effectiveness of military personnel is an area of increasing interest of military psychology. For instance, repeated deployments increases the likelihood that soldiers will encounter more traumatic events in their career [43], increasing the risk of sequential traumatization [44, 45].

Casto and Adler [17] have suggested an innovative refinement to understanding the number of deployments – psychological distress relation. They proposed that the number of deployments must be placed within the context of years of service, thus it is the number of deployment divided by the number of years of service, that is the rate of deployment, that is the critical factor. For instance soldiers A and B may both have served on three six-month deployments. However, if Soldier A has been in the forces 20 years, his or her deployment rate would be 3/20 or 15. On the other hand, Soldier B may have served four years; thus his or her deployment rate will be 3/4 or .75, a considerably higher deployment rate. Castro and Adler have found a curvilinear effect of operational tempo, with soldiers with moderate levels of operational tempo showing the highest amount of operational readiness.

A further factor related to motivation is whether a soldier has volunteered or has been tasked for a deployment. It is expected that, volunteering for a mission will result in significantly higher levels of motivation and less ambivalence concerning an upcoming deployment,

although to date this has not been established empirically. However, some indirect evidence tends to support this thinking. Specifically, recruits with higher levels of motivation to join the Army performed better in recruit training, relative to those with lower levels of motivation to complete Army service [24].

As the Canadian Forces is an all-volunteer force, we explore this issue in a group of military augmentees. Augmentees are individuals or small groups of soldiers from the regular or reserve force who may volunteer or be tasked to join a larger military deployment. Although augmentees have long played a role in military operations, especially in the case of nations with smaller militaries, such as Canada, they have often been overlooked in military research programs. However, their role in military operations will likely continue to expand as some CF projections suggest that augmentees will comprise up to 30% of future deployment force strength [1].

In summary then, the present research seeks to integrate these various areas of research, investigating the following two questions. First, what are the average motivation and ambivalence levels of a sample of Canadian Forces (CF) augmentees undergoing training for an upcoming peace support operation? Second, what demographic variables most affect levels of predeployment motivation and ambivalence levels of this group of CF augmentees?

Method

Respondents

698 CF soldiers who were augmentees to a variety of peacekeeping missions completed the questionnaire. Each individual was undergoing a predeployment training course at Peace Support Training Centre (PSTC), CFB Kingston. The PSTC provides an eight-day intensive training course to augmentees to peace support operations in cases where augmentees are not able to train with the formed units with whom they will deploy. The CF personnel in this sample were going to deploy to one of 25 mission areas, but most were going to SFOR (Bosnia), UNDOF (Golan Heights), & KFOR (Kosovo). Table 1 presents the demographic makeup of the sample.

Procedure

Each individual completed a series of demographic questions contained in an Inclearance Proforma questionnaire on the first day of training at the PSTC. Respondents individually completed the paper and pencil questionnaire in their lecture hall. All demographic questions had categorical response options.

Beyond the demographic variables typically collected in the proforma for administrative purposes, two additional questions were added, tapping motivation and ambivalence levels, respectively:

" How would you describe your motivation toward deployment into this theatre?"
1 - poor 2 - doubtful 3 - fair 4 - high 5 - very high

" What is your level of ambivalence or mixed feelings toward deployment into this theatre?

1 – no	*3 – moderately*	*5 – extremely*
mixed feelings	mixed feelings	mixed feelings

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Results

1. Average predeployment motivation and ambivalence levels:

Overall these augmentees reported a high level of motivation ($\bar{x}$ = 4.26, s.d. = .99). Despite these high levels of motivation, these soldiers also reported a moderate level of ambivalence or mixed feeling about their upcoming deployment ($\bar{x}$ = 2.33, s.d., = 1.14).

We also looked at the degree of relation between the motivation and ambivalence levels in the sample. One might expect that where motivation is as high as is recorded here that ambivalence would necessarily be low. On the other hand, traditional attitude research indicates that this need not be the case. The correlation revealed a moderately negative relation between motivation and ambivalence levels (r = - .31, p < .001). This correlation is in the expected direction, as theory suggests that experiencing conflict, will be manifested as a negative feeling. However, clearly these two items measure two distinct constructs. Thus, it is possible to feel highly motivated but also have some conflicted feelings about the upcoming deployment.

2. The relation of demographic variables to predeployment ambivalence and motivation levels:

We next turned our attention to investigating if sample demographic variables were related to predeployment levels of motivation and ambivalence levels. One-way analysis of variance was used for categorical variables such as rank, gender, marital status, and whether volunteered versus tasked. Regression was used to determine the effects of continuous variables such as age, years of service, and number of previous missions. Results of these analyses revealed that several of the demographic variables were related to motivation and ambivalence levels of this sample.

Gender, marital status, age

Initial analyses explored the impact of soldiers' gender, marital status and age on predeployment motivation and ambivalence levels. Past research led to the prediction that females might report lower levels of motivation and higher levels of ambivalence about the upcoming deployment. As well, it was expected that single might feel higher levels of motivation and less ambivalence than married soldiers, as single soldiers might have fewer family concerns. However, analyses of respondent gender, marital status, and regressions of age revealed that none of these variables were associated with self-reports of either motivation or ambivalence concerning the upcoming deployment (all p's ns).

Occupation group

As predicted, Occupation Group was related to both motivation toward and ambivalence about the upcoming deployment ($F(6, 691)=2.75$, $p = .01$ and $F(6, 691) = 2.20$, $p = .04$), respectively). Post hoc comparisons suggested that, overall; motivation levels were lowest for medical and field engineering personnel. As Table 2 shows, among the various occupational groups, motivation levels of computer and communications personnel were significantly higher than that of engineers and other technical support personnel. Individuals in medically-related occupations reported less motivation than did most other occupational groups. Table 3 presents average ambivalence levels for each occupational group. As indicated, soldiers in the computer/communication occupations reported significantly less ambivalence than engineers or other technical support staff, or by clerical, and medical personnel. Moreover, senior administrative staff also reported lower levels of ambivalence than did individuals in the following groups: Engineers, technical support, clerical, or medical personnel.

We had anticipated that soldiers serving in front-line combat roles might report less motivation and more ambivalence than soldiers serving in support roles on the deployment. In order to test this hypothesis, soldiers serving in the following occupations were designated as front-line: Field engineers, engineers/professionals and medical personnel. Technologists, clerical staff and senior administrative staff made up the support occupations group. ANOVA analyses suggested that soldiers serving in the support occupations reported significantly greater motivation for the deployment than did soldiers serving in front-line occupations ($F(1, 696)=4.461$, $p=.035$). Interestingly however, the groups did not differ in terms of ambivalence levels ($F(1, 696)< 1.0$, ns) (see Table 4 and 5).

Years of service, number of previous deployment, and operational tempo

Contrary to predictions, regressions results indicated that soldiers' number of previous peace support tours was not associated with self-reports of either motivation or ambivalence concerning the upcoming deployment ($F's < 1.0$, ns). Regression results also indicated that respondents' years of military service only marginally associated with their feelings of motivation or ambivalence with respect to the upcoming deployment ($F(1, 696)= 2.77$, $p = .10$ and $F(1, 696)=3.54$, $p =.06$, for motivation and ambivalence, respectively).

We also created a variable to assess an important aspect of operational tempo. This variable, termed deployment load, measures the rate at which individuals have participated in peace support operations, and is calculated by dividing number of previous tours by the number of years of service. We investigated the linear and the curvilinear effects of deployment load on motivation and ambivalence, with the curvilinear term specifically testing the Castro and Adler hypothesis that optimal readiness, in this case predeployment motivation and ambivalence will occur under moderate levels of deployment load. Regression analyses suggested that deployment

load was not linearly related to soldier motivation or ambivalence ($F's < 1.0$, ns). Moreover, the curvilinear effects of deployment load were also not associated with soldier motivation or ambivalence for this sample.

Rank

Similar analyses also explored the influence of rank on predeployment motivation and ambivalence levels. In contrast to previous research, rank group had no effect on the motivation levels of our respondents. It did, however produce a marginally significant effect on ambivalence ($F(3, 694)=2.17$, $p = .09$). As Table 6 shows, Junior Officers reported marginally less ambivalence about their upcoming mission than did Junior Non-Commissioned Members (NCMs), Senior NCMs or Senior Officers.

Volunteered/Tasked

An additional ANOVA analysis explored whether an individual volunteered or was tasked for this mission upon their predeployment motivation and ambivalence levels. As might be expected, results indicated that this variable had the largest impact on these human dimension indicators of predeployment readiness, with volunteers having significantly higher levels of motivation to deploy ($F (1, 696)= 242.41$, $p < .001$) and less ambivalence about the upcoming deployment ($F (1, 696) = 32.91$, $p < .001$) (see Table 7 & 8).

Summary and discussion

Our aims here were to begin to investigate: 1) the predeployment motivation and ambivalence levels in a group of Canadian Forces augmentees undergoing predeployment training for peace support operations and 2) whether demographic factors were related to the predeployment motivation and ambivalence levels for these soldiers. In response to the first question, we found that overall there was a very high level of motivation among the respondents (4.25/5!). This is perhaps not too surprising as the results presented here are based upon a largely volunteer force. We would expect that volunteers for the mission would have higher levels of motivation and less ambivalence concerning their deployment. Indeed, the volunteer/tasked variable was the most robust finding of the present study.

In spite of these high levels of motivation, it is also important to note that there also existed a moderate level of ambivalence, or mixed feelings concerning the upcoming deployment for some individuals here. Moreover, the correlation between ambivalence and motivation was only moderate, suggesting that the structure of deployment attitudes is complex. Thus, some soldiers are highly motivated but may nonetheless possess mixed feelings about the upcoming deployment.

One-way ANOVAS and regression analyses investigated the association of demographic variables that might be associated with predeployment motivation levels. Of the demographic variables assessed here, whether the soldier had volunteered or been tasked for the mission, and military occupation group had the largest impact on the ambivalence and motivation levels of these soldiers. Further, soldiers in occupations classified as frontline, reported less motivation about the upcoming deployment than soldiers in support occupations. One explanation of these findings might be that certain occupational groups are tasked to deploy more often and so are more vulnerable to burnout that may contribute to, or underlie lower motivation and higher ambivalence scores. Recall however, that simple number of previous peace support tours was not associated with either psychological variable. Moreover, the index of deployment load (number of previous tours/number of years of service) was unrelated to either motivation or ambivalence in this sample. Thus, the military occupation-motivation relation is no doubt complex in nature and there may be other factors inherent in the occupation itself that contribute to these findings.

Analyses revealed that several demographic variables were not associated with motivation and ambivalence here. Specifically, the age, years of service, number of deployments (all correlated with each other), gender, and marital status of these soldiers were unrelated to motivation and ambivalence. Some of these results were unexpected based on the existing literature. However, it should also be noted that these soldiers were a somewhat unique group of military respondents, relative to most samples in the literature, in that the majority had volunteered for the deployment, and reported high levels of motivation.

It is important to note that this research is preliminary and exploratory in nature. Statistically significant group differences seen here often did not reflect large differences in terms of absolute magnitude. Nonetheless, we did see a range of motivation and ambivalence scores among these respondents. Thus, these results are suggestive of the potential impact of various

demographic variables upon predeployment motivation and ambivalence levels. These results are perhaps especially encouraging to us because the PSTC's predeployment Inclearance Proforma questionnaire was neither anonymous nor confidential in nature. Rather, its primary purpose was to provide the training system at the PSTC with information on demographics of the students, as well as their previous peace support experience, and previous training. Thus, the information collected on the proforma questionnaire was available to instructional staff at the PSTC. Moreover, respondents completed their questionnaires in a group lecture hall. Both of these factors could easily increase social desirability demands and lead respondents to increase their reported levels of motivation and to decrease the levels of ambivalence they were willing to report. Pursuing these psychological variables in the context of a research questionnaire that assures confidentiality and anonymity of responses may increase the range of responses participants are willing to report concerning potentially sensitive questions concern their ambivalence and motivation regarding an upcoming mission.

Similarly, the predeployment inclearance proforma was not designed to tap psychological factors. As a result we limited the motivation and ambivalence questions to one item each. One suggestion for future research would be the expansion of measures of these sorts of attitudinal and motivational factors. For instance, in traditional attitude research, ambivalence measures typically assess conflict arising from within each component of an attitude, for instance when positive feelings conflict with negative feelings. Indeed, one source of ambivalence that may be particularly interesting to explore in this context is the conflict between affective and cognitive components of predeployment attitudes. Such ambivalence would occur when a soldier believes that the deployment is the right thing to do but doesn't feel very positive about going on the deployment (perhaps due to the number or intensity of their prior missions, or impact upon family). Still, the present findings do provide evidence that both motivation and ambivalence are related to certain demographic variables, and are thus encouraging for future, expanded research in this area.

This research may also inform conceptualizations of operational tempo. There is presently research underway in Canada and several other countries concerning the impact of OPTEMPO on a variety of aspects relevant to the military, including operational readiness, operational effectiveness and intentions to leave the military. Much of that research has been devoted to refining the assessment of what constitutes a deployment (e.g., only overseas missions, all missions that take a soldier away from home for a certain (as yet still unspecified) time?). The present results showed that the traditional calculation of deployment load (number of previous tours/number of years of service) was not a particularly strong correlate of predeployment motivation and ambivalence levels for these soldiers. As noted earlier, our findings indicated that whether an individual had been tasked or volunteered that seemed to contribute the most to predeployment ambivalence and motivation levels. Taken together then, these results perhaps point to a potential refinement of PERS/OPTEMPO/deployment load calculation in light of these findings concerning the role of volunteer/tasked status and motivational elements.

Future research should seek to better understand the range of factors, beyond demographic variables, that may precipitate ambivalence and determine whether these issues are easily remedied. For example, if decreases in motivation and increases in ambivalence are associated with deploying to a new mission area, it may be that providing additional information on the mission area would be beneficial. If lower levels of motivation, and higher levels of

ambivalence are associated with family concerns, providing additional organizational supports to family etc., may be particularly helpful. Similarly, if particular individual differences in personality affect levels of motivation and ambivalence, it may be that certain people will need more information or resources to reduce their concerns about the upcoming deployment.

It would also be both interesting and important to replicate these results with formed units or brigades who are deploying to a peace support mission. A tasked battle group conceivably would have a greater range of motivation and ambivalence scores and thus we may see even greater links between motivation, ambivalence and demographic variables. Finally, although theory and past research in other areas predicts that psychological factors such as motivation and ambivalence would be associated with operational readiness and operational effectiveness, these sorts of outcome measures were not part of the present research. Thus, future research should also concern itself with the exact nature of the relation of self-reports of these sorts of predeployment motivation and ambivalence levels to the experience of stress, adaptation, and operational effectiveness outcomes among peacekeepers at different stages of deployment cycle. Indeed, our conceptual model of psychological adaptation to peace support operation [1] seeks to test just these sorts of relations. Of course, the first step in any of these research initiatives would be to quantify baseline measures of ambivalence and motivation – much as we have begun to establish here.

Table 1: *Sample Demographic Data*

AGE:	19 - 54, $\bar{X}$ = 37 yrs
GENDER:	592 males 106 females
MARITAL STATUS:	148 single 195 married 55 separated/divorced
REGULAR/ RESERVE:	654 regular force personnel 39 reserve force personnel
YRS SERVICE	1 – 37 yrs, $\bar{X}$ = 15.6
# PRIOR MISSIONS	0 – 6 tours, $\bar{X}$ = 1
RANK GROUPS	384 Jr NCMs 154 Sr NCMs 91 Jr Officers 67 Sr Officers
VOLUNTEER/ TASKED	504 volunteers 194 tasked
OCCUPATIONAL GROUPS	70 Field Engineers 52 Engineers/Professionals 194 Technologists 82 Computing and Communications 192 Clerical staff 49 Sr Administrative staff 59 Medical personnel
Front-line/ Support Personnel	517 Support 181 Front-line

Table 2: Mean Level of Predeployment Motivation by Occupational Group

OCCUPATION CATEGORY	N	MEAN	STD. DEVIATION
Field/Aviation	70	4.37	.97
Engineer/Professional	52	4.04	1.15
Engineering Tech	194	4.23	.90
Computing & Communications	82	4.48	.80
Clerical	192	4.31	.88
Senior Admin	49	4.29	1.00
Medical	59	3.93	1.05
Total	698	4.26	.94

$F(6, 692)=2.746, p = .012$

Table 3: Mean Level of Predeployment Ambivalence by Occupational Group

OCCUPATION GROUP	N	MEAN	STD. DEVIATION
Field/Aviation	70	2.23	1.26
Engineer/Professional	52	2.48	1.15
Engineering Tech	194	2.42	1.18
Computing & Communications	82	2.07	.99
Clerical	192	2.39	1.12
Senior Admin	49	1.96	.96
medical	59	2.46	1.24
Total	698	2.33	1.14

$F(6, 691)=2.199, p = .041$

Table 4: Mean level of Motivation for front-line versus support occupations

SUPPORT VS. FRONTLINE	N	MEAN	STD. DEVIATION
Support	517	4.30	.89
Frontline	181	4.13	1.06
Total	698	4.26	.94

$F(1, 696)=4.461, p=.035$

Table 5: Mean level of Ambivalence for front-line versus support occupations

SUPPORT VS. FRONTLINE	N	MEAN	STD. DEVIATION
Support	517	2.31	1.116
Frontline	181	2.38	1.221
Total	698		

$F(1, 696)< 1.0$, ns.

Table 6: Mean Predeployment Ambivalence by Rank Group

RANK GROUP	N	MEAN	STANDARD DEVIATION
Junior Non-commissioned personnel	386	2.33	1.13
Senior Non-commissioned personnel	154	2.40	1.17
Junior Officers	91	2.07	.99
Senior Officers	67	2.48	1.33
Total	698	2.33	1.14

$F(3, 694)=2.169, p < .09$

Table 7: *Mean Predeployment Motivation by Volunteer vs. Tasked Status*

STATUS	N	MEAN	STD. DEVIATION
volunteer	504	4.56	.61
tasked	194	3.49	1.18
Total	698	4.26	.94

$F(1, 696)=242.408, p <.0001$

Table 8: *Mean Predeployment Ambivalence by Volunteer vs. Tasked Status*

STATUS	N	MEAN	STD. DEVIATION
volunteer	504	2.17	1.132
tasked	194	2.72	1.081
Total	698	2.33	1.143

$F(1, 696) = 32.91, p < .001$

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14. ABSTRACT

(U) This research explores one aspect of the predeployment phase of our recent conceptual model of psychological adaptation to peace support operations [1] in more detail, examining the impact of demographic variables on the predeployment motivation and ambivalence (or intrapersonal conflict) levels of Canadian Forces (CF) augmentees to peace support operations. More specifically, we assess the average ambivalence and motivation levels of a sample of Canadian Forces (CF) augmentees undergoing training for an upcoming peace support operation and investigate the relationship between predeployment motivation and ambivalence levels and selected demographic factors of this sample. 698 CF soldiers who were undergoing a predeployment training course at Peace Support Training Centre (PSTC), CFB Kingston, completed the questionnaire that included a series of demographic questions and asked two questions concerning their overall level of motivation and ambivalence concerning their upcoming deployment. Analysis indicated that whether a soldier had volunteered for the mission had the largest impact on these motivational indicators of predeployment readiness, with volunteers having significantly higher levels of motivation to deploy and less ambivalence about the upcoming deployment, relative to soldiers who were tasked. Occupation Group was also related to both motivation toward and ambivalence about the upcoming deployment. These results are considered in terms of the composition of this sample of augmentees and directions for future research in this area are discussed.

(U) Cette recherche explore plus à fond un aspect de l'étape prédéploiement de notre récent modèle conceptuel de l'adaptation psychologique aux opérations de soutien de la paix (Thompson et Gignac, 2001), en examinant l'effet de variables démographiques sur les degrés de motivation et d'ambivalence (ou de conflit intérieur) prédéploiement des renforts des Forces canadiennes (FC) affectés à des opérations de soutien de la paix. Nous évaluons plus précisément les degrés moyens d'ambivalence et de motivation d'un échantillon de renforts des Forces canadiennes (FC) recevant un entraînement en vue d'une prochaine opération de soutien de la paix et nous examinons la relation entre les degrés de motivation et d'ambivalence prédéploiement et certains facteurs démographiques choisis. Les 698 soldats des FC qui recevaient une formation prédéploiement au Centre de formation pour le soutien de la paix (CFSP), BFC Kingston, ont rempli le questionnaire, qui comportait une série de questions démographiques et ils ont répondu à deux questions concernant leur degré global de motivation et d'ambivalence à l'égard du déploiement à venir. L'analyse a révélé que le statut de volontaire/désigné était le facteur qui avait l'effet le plus marqué sur les indicateurs motivationnels de l'état de préparation prédéploiement, les volontaires manifestant des degrés de motivation beaucoup plus élevés et des degrés d'ambivalence moindres face au futur déploiement que les soldats désignés pour cette mission. Le groupe professionnel était également lié à la motivation et à l'ambivalence face au déploiement. Dans cette recherche, on examine les résultats par rapport à la composition de cet échantillon de renforts et l'on traite de l'orientation que pourraient prendre les futures recherches dans ce domaine.

15. KEYWORDS, DESCRIPTORS or IDENTIFIERS

(U) predeployment; psychological adaptation; peace support operations; Canadian Forces; demographics; motivation; ambivalence; augmentees